

What is claimed is:

1 1. A method of controlling communications in a wireless network
2 comprising:
3 receiving, in a wireless network controller, an indicator in a message sent
4 by a mobile station to establish a data transfer session in the wireless network; and
5 selecting one of plural types of protocol stacks to use for communications
6 over an air link between the wireless network controller and mobile station based on the
7 indicator.

1 2. The method of claim 1, wherein selecting one of plural types of protocol
2 stacks comprises selecting from protocol stacks comprising a GERAN protocol stack.

1 3. The method of claim 2, wherein selecting one of plural types of protocol
2 stacks comprises selecting from plural stacks comprising the GERAN protocol stack and
3 an EGPRS protocol stack.

1 4. The method of claim 1, wherein selecting one of plural types of protocol
2 stacks comprises selecting from protocol stacks comprising an EGPRS protocol stack.

1 5. The method of claim 1, wherein receiving the indicator comprises
2 receiving a Temporary Logical Link Identity structure having one of plural values.

1 6. The method of claim 5, wherein selecting one of plural types of protocol
2 stacks comprises selecting a first protocol stack if the Temporary Logical Link Identity
3 structure has a first value.

1 7. The method of claim 6, wherein selecting one of plural types of protocol
2 stacks further comprises selecting a second protocol stack if the Temporary Logical Link
3 Identity structure has a second value.

1 8. The method of claim 1, wherein selecting one of plural types of protocol
2 stacks comprises selecting a first protocol stack if the indicator has a first value and
3 selecting a second protocol stack if the indicator has a second value.

1 9. The method of claim 1, wherein receiving the indicator comprises
2 receiving a parameter used for contention resolution.

1 10. The method of claim 9, further comprising performing contention
2 resolution using the parameter.

1 11. The method of claim 9, wherein receiving the parameter comprises
2 receiving a Temporary Logical Link Identity.

1 12. The method of claim 9, wherein receiving the parameter comprises
2 receiving a GERAN Contention Resolution Identity.

1 13. The method of claim 1, wherein receiving the indicator comprises
2 receiving one of plural training sequences.

1 14. A system comprising:
2 an interface to an air link to communicate with mobile stations; and
3 a controller adapted to perform contention resolution with a first type
4 mobile station using a first type of indicator, the controller adapted to communicate
5 signaling according to a first wireless protocol with the first type of mobile station, and
6 the controller adapted to perform contention resolution with a second type
7 of mobile station using a second type of indicator, the controller adapted to communicate
8 signaling according to a second wireless protocol with the second type of mobile station.

1 15. The system of claim 14, wherein the first wireless protocol comprises a
2 GERAN wireless protocol.

1 16. The system of claim 15, wherein the second wireless protocol comprises
2 an EGPRS wireless protocol.

1 17. The system of claim 14, wherein the first wireless protocol comprises an
2 EGPRS wireless protocol.

1 18. The system of claim 14, wherein the first type of indicator comprises a
2 Temporary Logical Link Identity (TLLI) structure having a first value, and the second
3 type of indicator comprises a TLLI structure having a second value.

1 19. The system of claim 18, wherein the first value indicates one of a local
2 TLLI, a foreign TLLI, and a random TLLI, and the second value indicates one of a local
3 GRCI and a random GRCI.

1 20. An article comprising at least one storage medium containing instructions
2 that when executed cause a wireless access system to:
3 receive an indicator in a message sent by a mobile station to establish a
4 data transfer session; and
5 select one of plural protocol stacks to use for communications over an air
6 link between the wireless access system and the mobile station.

1 21. The article of claim 20, wherein the instructions when executed cause the
2 wireless access system to select one of plural protocol stacks by selecting a first protocol
3 stack in response to the indicator having a first value and selecting a second protocol
4 stack in response to the indicator having a second value.

1 22. The article of claim 20, wherein the instructions when executed cause the
2 wireless access system to select one of a GERAN protocol stack and an EGPRS protocol
3 stack.

1 23. The article of claim 20, wherein the instructions when executed cause the
2 wireless access system to receive the indicator by receiving a Temporary Logical Link
3 Identity (TLLI) structure.

1 24. An article comprising at least one storage medium containing instructions
2 that when executed cause a wireless access system to:
3 perform contention resolution with a first type mobile station using a first
4 type of indicator;
5 communicate signaling according to a first wireless protocol with the first
6 type of mobile station;
7 perform contention resolution with a second type of mobile station using a
8 second type of indicator; and
9 communicate signaling according to a second wireless protocol with the
10 second type of mobile station.

1 25. The article of claim 24, wherein the instructions when executed cause the
2 wireless access system to select one of plural types of protocol stacks based on which of
3 the first and second types of indicators is received.